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=> FIL REG
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                E US20070093644/PN
L1            1 S E3
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L2            5 S E1-5

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L4              SCR 2043
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L6            7 S L3
                E D-FRUCTOSE/CN
L7            1 S E3
L8         2513 S (M (L) F)/ELS (L) 2/ELC.SUB
L9              STR L3
L10           4 S L9
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L20           1 S E3
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L39       10256 S E3
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L41       18252 S POLYANILIN?
L42          12 S L38 AND L41
L43          12 S L40 OR L42
L44        1150 S POLY (2A) ANILIN?
L45           9 S L38 AND L44
L46          13 S L43 OR L45
L47           8 S 1808-2004/PY,PRY,AY AND L46
L48      132816 S L8
L49           6 S L36 AND L37 AND L48
L50           3 S 1808-2004/PY,PRY,AY AND L49
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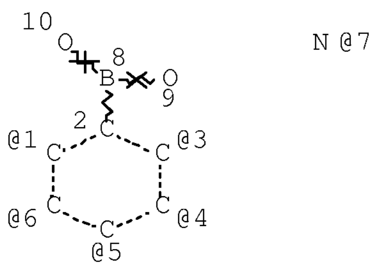

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
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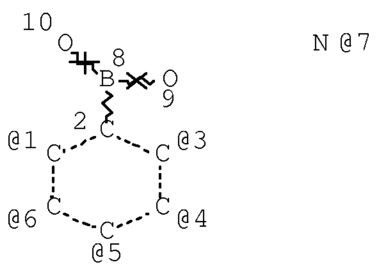

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
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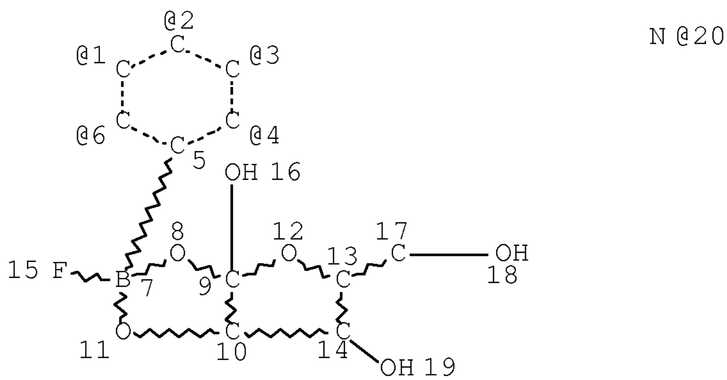

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE
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=> FIL HCA
FILE 'HCA' ENTERED AT 14:27:41 ON 08 JUL 2009
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=> D L51 1-8 IBIB ABS HITSTR HITIND RE

L51 ANSWER 1 OF 8 HCA COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 144:403489 HCA Full-text

TITLE: Electrochemically fabricated conducting polymer nanowire sensors

INVENTOR(S): Tseng, Hsian-Rong; Wang, Jun; Alam, Maksudul; Guo, Yaoyao

PATENT ASSIGNEE(S): The Regents of the University of California, USA

SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006042276	A2	20060420	WO 2005-US36671	20051012 <--
WO 2006042276	A3	20070329		

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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-618421P P 20041012 <--

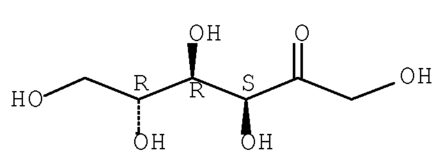
AB Resistive-sensors are provided wherein networks or nanoframeworks of conducting polymer nanowires are electrochem. grown from pre-polymer solns. in the junction gap located between electrode pairs.

IT 57-48-7, Fructose, analysis
(electrochem. fabrication of conducting polymer nanowire sensors)

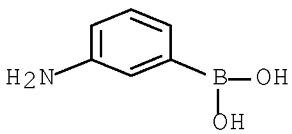
RN 57-48-7 HCA

CN D-Fructose (CA INDEX NAME)

Absolute stereochemistry.



IT 30418-59-8
(electrochem. fabrication of conducting polymer nanowire sensors)
RN 30418-59-8 HCA
CN Boronic acid, B-(3-aminophenyl)- (CA INDEX NAME)



CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 9
IT Polyanilines
(electrochem. fabrication of conducting polymer nanowire sensors)
IT 50-99-7, D-Glucose, analysis 57-48-7, Fructose, analysis 57-50-1, Sucrose, analysis 64-17-5, Ethanol, analysis 67-56-1, Methanol, analysis 67-64-1, Acetone, analysis 67-66-3, Chloroform, analysis 7647-01-0, Hydrogen chloride, analysis 7664-41-7, Ammonia, analysis
(electrochem. fabrication of conducting polymer nanowire sensors)
IT 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7631-86-9, Silicon dioxide, uses 25233-30-1, Polyaniline 30604-81-0, Polypyrrole 126213-51-2, Poly(ethylenedioxythiophene)
(electrochem. fabrication of conducting polymer nanowire sensors)
IT 62-53-3, Aniline, reactions 109-97-7, Pyrrole 30418-59-8 126213-50-1, 3,4-Ethylenedioxythiophene
(electrochem. fabrication of conducting polymer nanowire sensors)

L51 ANSWER 2 OF 8 HCA COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 143:27368 HCA Full-text
TITLE: Switchable self-doped polyaniline and production method thereof
INVENTOR(S): Deore, Bhavana A.; Yu, Insun; Freund, Michael S.
PATENT ASSIGNEE(S): University of Manitoba, Can.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005054338	A1	20050616	WO 2004-CA2083	20041206

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            GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
            KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
            MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
            SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
            VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
            AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
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            NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA,
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            PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
    US 20070093644   A1   20070426   US 2006-581752
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PRIORITY APPLN. INFO.:   US 2003-526603P   P
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                                          WO 2004-CA2083   W
                                                                    200412
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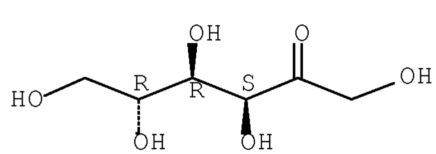
AB   A substituted polyaniline whose self-doped state can be controlled via complexation between boronic acid groups along the backbone with D-fructose in the presence of fluoride is described. For the first time, this allows the formation of a water-soluble, self-doped conducting polymer under the polymerization conditions. In turn this facilitates the growth of polyaniline over a wider pH range.

IT   57-48-7, D-Fructose, uses 7681-49-4, Sodium fluoride, uses
      (dopant; production of water-soluble switchable self-doped polyanilines)

RN   57-48-7 HCA

CN   D-Fructose (CA INDEX NAME)

Absolute stereochemistry.

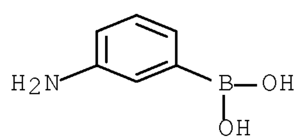


RN   7681-49-4 HCA
CN   Sodium fluoride (NaF) (CA INDEX NAME)

IT   280563-63-5P, 3-Aminophenyl boronic acid homopolymer
     853074-12-1P
        (non-self-doped form; production of water-soluble switchable self-doped
        polyanilines)
RN   280563-63-5 HCA
CN   Boronic acid, B-(3-aminophenyl)-, homopolymer (CA INDEX NAME)

     CM   1

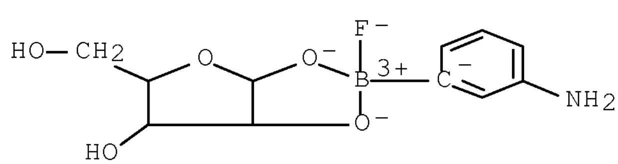
     CRN 30418-59-8
     CMF C6 H8 B N O2



RN   853074-12-1 HCA
CN   Borate(1-), (3-aminophenyl)[β-D-arabinofuranosato(2-)-κO1,κO2]fluoro-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

     CM   1

     CRN 654084-45-4
     CMF C11 H14 B F N O5
     CCI CCS



IC   ICM C08G0073-02
     ICS H01B0001-12
CC   37-3 (Plastics Manufacture and Processing)

ST   switchable self doped polyaniline boronic acid
IT   Conducting polymers
(production of water-soluble switchable self-doped polyanilines
)
IT   Polyanilines
(production of water-soluble switchable self-doped polyanilines
)
IT   57-48-7, D-Fructose, uses 7681-49-4, Sodium
fluoride, uses
(dopant; production of water-soluble switchable self-doped
polyanilines)
IT   280563-63-5P, 3-Aminophenyl boronic acid homopolymer
853074-12-1P
(non-self-doped form; production of water-soluble switchable self-
doped
polyanilines)
IT   7727-54-0, Ammonium persulfate
(polymerization catalyst; production of water-soluble switchable
self-doped
polyanilines)

RE

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(2) Freund; US 20020029979 2002 HCA
(3) Freund; US 6797152 2004 HCA
(4) Galaj; CA 2086820 1992 HCA
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L51 ANSWER 3 OF 8 HCA
ACCESSION NUMBER: 140:396572 HCA Full-text
TITLE: Electroactivity of Electrochemically Synthesized Poly(Aniline Boronic Acid) as a Function of pH: Role of Self-Doping

AUTHOR(S): Deore, Bhavana A.; Hachey, Sarah; Freund, Michael S.
CORPORATE SOURCE: Department of Chemistry, University of Manitoba, Winnipeg, MB, R3T 2N2, Can.

SOURCE: Chemistry of Materials (2004), 16(8), 1427-1432
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB   The influence of pH on the electrochem. behavior of electropolymd., self-doped poly(aniline boronic acid) thin films in the presence of D-fructose was studied with voltammetry and potentiometry in phosphate-buffered saline solution The complexation of boronic acid with D-fructose and subsequent formation of self-doped polymer extends the electroactivity of poly(aniline boronic acid) to neutral and alkaline media in a manner similar to that of other self-doped polyanilines. However, the electroactivity exhibits more complex pH-dependent behavior, suggesting a transition between species involved in the self-doping process. Results obtained with in situ UV-visible

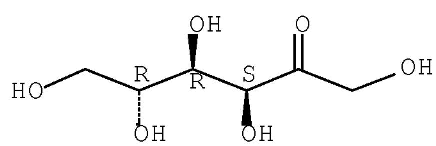
spectroscopy and ex situ FTIR spectroscopy in conjunction with 11B and 19F NMR studies of monomeric species indicate that the self-doped structure of poly(aniline boronic acid) is pH sensitive and that the anionic boronic acid complex involves either fluoride or hydroxide depending on pH.

IT 57-48-7, D-Fructose, uses 7681-49-4, Sodium fluoride (NaF), uses
(cyclic voltammetry of poly(aminophenylboronic acid) in phosphate-buffered saline stock solution containing fructose and NaF as function of pH and electroactivity role of self-doping)

RN 57-48-7 HCA

CN D-Fructose (CA INDEX NAME)

Absolute stereochemistry.



RN 7681-49-4 HCA

CN Sodium fluoride (NaF) (CA INDEX NAME)

F—Na

IT 280563-63-5P, Poly(3-aminophenylboronic acid)
(cyclic voltammetry of poly(aminophenylboronic acid) in phosphate-buffered saline stock solution containing fructose and NaF as function of pH and electroactivity role of self-doping)

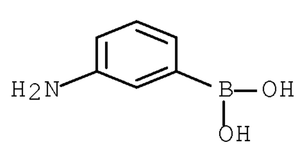
RN 280563-63-5 HCA

CN Boronic acid, B-(3-aminophenyl)-, homopolymer (CA INDEX NAME)

CM 1

CRN 30418-59-8

CMF C6 H8 B N O2

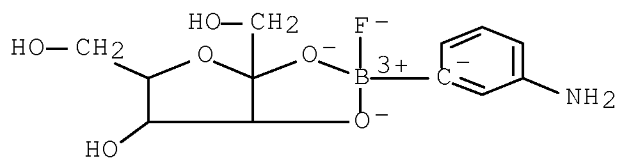


IT 685828-70-0 685828-71-1

(formation and electropolymn. and electroactivity of electrochem. synthesized poly(anilineboronic acid) as function of pH and role of self-doping)

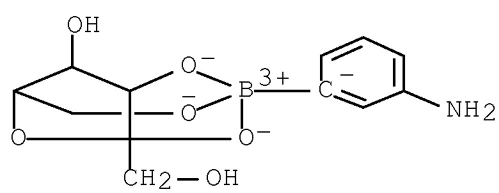
RN 685828-70-0 HCA

CN Borate(1-), (3-aminophenyl)fluoro[β-D-fructofuranosato(2-)-κO2,κO3]-, (T-4)- (CA INDEX NAME)



RN 685828-71-1 HCA

CN Borate(1-), (3-aminophenyl)[β-D-fructofuranosato(3-)-κO2,κO3,κO6]-, (T-4)- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 35

ST electroactivity electrochem prepd self doped polyanilineboronic acid function pH; cyclic voltammetry polyaminophenylboronic acid film fructose sodium fluoride pH

IT 57-48-7, D-Fructose, uses 7681-49-4, Sodium fluoride (NaF), uses
(cyclic voltammetry of poly(aminophenylboronic acid) in phosphate-buffered saline stock solution containing fructose and NaF as function of pH and electroactivity role of self-doping)

IT 280563-63-5P, Poly(3-aminophenylboronic acid)
(cyclic voltammetry of poly(aminophenylboronic acid) in phosphate-buffered saline stock solution containing fructose and NaF as function of pH and electroactivity role of self-doping)

IT 685828-70-0 685828-71-1
(formation and electropolymn. and electroactivity of electrochem. synthesized poly(anilineboronic acid) as function of pH and role of self-doping)

RE

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(25) Ofer, D; J Am Chem Soc 1990, V112, P7869 HCA
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(39) Yue, J; J Am Chem Soc 1991, V113, P2665 HCA

L51 ANSWER 4 OF 8 HCA

ACCESSION NUMBER: 139:239265 HCA Full-text

TITLE: Saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride

AUTHOR(S): Deore, Bhavana; Freund, Michael S.
CORPORATE SOURCE: Department of Chemistry, University of Manitoba, Winnipeg, MB, R3T 2N2, Can.

SOURCE: Analyst (Cambridge, United Kingdom) (2003), 128(6), 803-806
CODEN: ANALAO; ISSN: 0003-2654
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new approach for the electrosynthesis of saccharide-imprinted poly(aniline boronic acid) is described. The method involves the

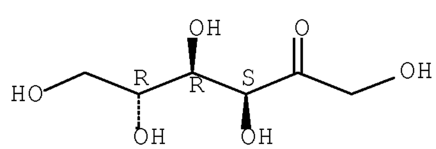
formation of a saccharide-aminophenylboronic acid complex in the presence of fluoride to allow the electropolymn. of a self-doped, molecularly imprinted polyaniline. The formation of the anionic monomer complex enables electrochem. polymerization at near neutral pH (5-7) ensuring the incorporation of saccharide in the resulting, self-doped polymer. Films were imprinted with D-fructose where saccharide-aminophenylboronic acid complexation occurred in the presence of one equivalent of fluoride. The selectivity toward D-fructose relative to D-glucose showed an increase of over 25% as a result of imprinting. In addition to the enhanced selectivity, to the best of the authors' knowledge this is the 1st example of the electropolymn. of a self-doped polyaniline homopolymer under neutral pH conditions.

IT 57-48-7, D-Fructose, analysis
(analyte and imprinting mol.; saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride)

RN 57-48-7 HCA

CN D-Fructose (CA INDEX NAME)

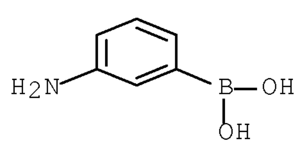
Absolute stereochemistry.



IT 30418-59-8, 3-Aminophenylboronic acid
(in preparation of saccharide imprinting of poly(aniline boronic acid))

RN 30418-59-8 HCA

CN Boronic acid, B-(3-aminophenyl)- (CA INDEX NAME)



IT 280563-63-5DP, Poly(3-aminophenylboronic acid), fructose imprinted
(saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride)

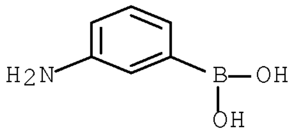
RN 280563-63-5 HCA

CN Boronic acid, B-(3-aminophenyl)-, homopolymer (CA INDEX NAME)

CM 1

CRN 30418-59-8

CMF C6 H8 B N O2



CC 80-5 (Organic Analytical Chemistry)
ST saccharide imprinting polyanilineboronic acid fluoride presence
IT 57-48-7, D-Fructose, analysis
(analyte and imprinting mol.; saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride)
IT 30418-59-8, 3-Aminophenylboronic acid
(in preparation of saccharide imprinting of poly(aniline boronic acid))
IT 16984-48-8, Fluoride, analysis
(saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride)
IT 280563-63-5DP, Poly(3-aminophenylboronic acid), fructose imprinted
(saccharide imprinting of poly(aniline boronic acid) in the presence of fluoride)

RE
(1) Barker, S; Carbohydr Res 1973, V26, P33 HCA
(2) Cooper, C; Chem Commun 1998, P1365 HCA
(3) Deore, B; Anal Chem 2000, V72, P3989 HCA
(4) Haupt, K; Analyst 2001, V126, P747 HCA
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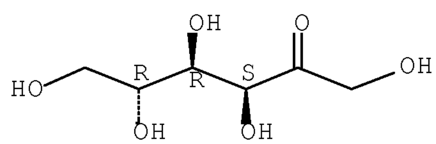
L51 ANSWER 5 OF 8 HCA
ACCESSION NUMBER: 138:149754 HCA Full-text
TITLE: Poly(aniline) as a non-enzymatic sugar sensor: potentiometric sensors based on the inductive effect
AUTHOR(S): Shoji, Eiichi; Freund, Michael S.
CORPORATE SOURCE: Molecular Materials Research Center, Beckman Institute, California Institute of Technology, Pasadena, CA, 91125, USA
SOURCE: Proceedings - Electrochemical Society (

2001), 2001-18(Chemical and Biological
Sensors and Analytical Methods II), 293-303
CODEN: PESODO; ISSN: 0161-6374
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The electrochem. potential poly(aniline boronic acid) has been shown to be sensitive to the complexation reaction between the boronic acids and various diols. The change in potential is consistent with the expected influence of the altered inductive effect arising from complexation on the pKa of the polymer. In addition the relative sensitivity of the electrode to different diols is consistent with reported binding consts. The role of local pH changes as well as the presence of polyanions in the films on sensitivity has been explored.
IT 57-48-7, Fructose, analysis
(Poly(aniline) as non-enzymic sugar sensor)
RN 57-48-7 HCA
CN D-Fructose (CA INDEX NAME)

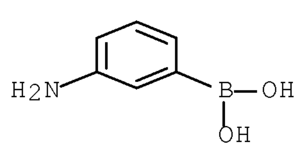
Absolute stereochemistry.



IT 139289-90-0
(Poly(aniline) as non-enzymic sugar sensor)
RN 139289-90-0 HCA
CN Boronic acid, B-(3-aminophenyl)-, polymer with benzenamine (CA INDEX NAME)

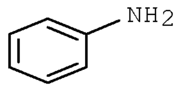
CM 1

CRN 30418-59-8
CMF C6 H8 B N O2



CM 2

CRN 62-53-3
CMF C6 H7 N



CC   9-7 (Biochemical Methods)
ST   polyaniline sugar biosensor
IT   Biosensors
     Cyclic voltammetry
     Enzyme electrodes
     Films
     Inductive effect
        (Poly(aniline) as non-enzymic sugar sensor)
IT   Carbohydrates, analysis
        (Poly(aniline) as non-enzymic sugar sensor)
IT   Polymerization
        (electrochem.; Poly(aniline) as non-enzymic
        sugar sensor)
IT   Sensors
        (potentiometric; Poly(aniline) as non-enzymic
        sugar sensor)
IT   50-99-7, D-Glucose, analysis 57-48-7, Fructose, analysis
     97-30-3, α-Methyl-D-glucoside
        (Poly(aniline) as non-enzymic sugar sensor)
IT   54802-94-7 139289-90-0
        (Poly(aniline) as non-enzymic sugar sensor)
RE
(1) Barker, S; Carbohydrate Research 1973, V26, P33 HCA
(2) Bartlett, P; J Chem Soc, Faraday Trans 1996, V92, P4137 HCA
(3) Bevington, J; Radical polymerization 1961
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(5) Consden, R; Nature 1952, V169, P783 HCA
(6) Focke, W; J Phys Chem 1987, V91, P5813 HCA
(7) Gough, D; Diabetes 1995, V44, P1005 HCA
(8) Hatchett, D; J Phys Chem B 1999, V103, P10992 HCA
(9) Hine, J; Structural Effects on Equilibria in Organic Chemistry 1975
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(13) McQuade, D; Chem Rev 2000, V100, P2537 HCA
(14) Menardo, C; Synth Met 1988, V25, P311 HCA
(15) Meyerhoff, C; The Endocrinologist 1996, V6, P51
(16) Moore; Can J Chem 1999, V77, P681 HCA
(17) Pickup, J; Tibtech 1993, V11, P285 HCA
(18) Pringsheim, E; Anal Chim Acta 1997, V357, P247 HCA
(19) Quillard, S; Phys Rev B: Condens Matter 1994, V50, P12498 HCA
(20) Sandanayake, K; J Chem Soc Chem Comm 1994, P1083 HCA
(21) Shiomi, Y; J Chem Soc Perkin Trans 1 1993, V2111
(22) Talaie, A; Polymer 1997, V38, P1145 HCA
(23) Wilkins, E; Med Eng Phys 1996, V18, P273 MEDLINE
(24) Yoon, J; J Am Chem Soc 1992, V114, P5874 HCA

L51 ANSWER 6 OF 8 HCA COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 138:10980 HCA Full-text

TITLE: Potentiometric saccharide detection based on the pKa changes of poly(aniline boronic acid)

AUTHOR(S): Shoji, Eiichi; Freund, Michael S.

CORPORATE SOURCE: Molecular Material Research Center Beckman Institute, California Institute of Technology, Pasadena, CA, 91125, USA

SOURCE: Journal of the American Chemical Society (2002), 124(42), 12486-12493
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

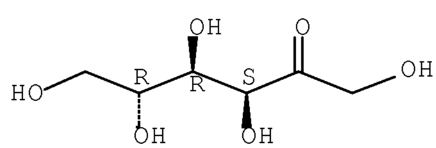
AB A novel approach for the potentiometric detection of saccharides using poly(aniline boronic acid) is presented. A model is described in which the electrochem. potential is sensitive to the change in the pKa of the conducting polymer as a result of boronic acid-diol complexation. In this system, boronic acid complexation is the mode of transduction and it is manifested as changes in the electrochem. potential of the polymer with remarkable selectivity. Characteristics of both transient and steady-state response associated with the complexation are discussed. The presence of Nafion and fluoride during the electrochem. polymerization of 3-aminophenylboronic acid impact the sensitivity and the stability of the electrode response. The sensor sensitivity is improved significantly by increasing the concentration of sodium fluoride during the polymerization Finally, the nature of the selectivity of the boronic acid-diol reaction under these conditions is explored by using MO calcns.

IT 57-48-7, D-Fructose, analysis
(analyte; potentiometric saccharide detection based on the pKa changes of poly(anilineboronic acid))

RN 57-48-7 HCA

CN D-Fructose (CA INDEX NAME)

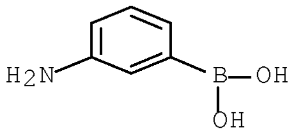
Absolute stereochemistry.



IT 30418-59-8, 3-Aminophenylboronic acid
(in preparation of poly(anilineboronic acid))

RN 30418-59-8 HCA

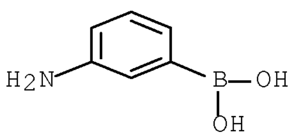
CN Boronic acid, B-(3-aminophenyl)- (CA INDEX NAME)



IT 280563-63-5P, Poly(3-aminophenylboronic acid)
(potentiometric saccharide detection based on the pKa changes of poly(anilineboronic acid))
RN 280563-63-5 HCA
CN Boronic acid, B-(3-aminophenyl)-, homopolymer (CA INDEX NAME)

CM 1

CRN 30418-59-8
CMF C6 H8 B N O2



CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 72
ST saccharide detection potentiometry polyanilineboronic acid electrode
IT Glycols, analysis
Monosaccharides
(analytes; potentiometric detection based on the pKa changes of poly(anilineboronic acid))
IT Polyoxyalkylenes, analysis
(fluorine- and sulfo-containing, ionomers; in preparation of poly (anilineboronic acid))
IT Fluoropolymers, analysis
(polyoxyalkylene-, sulfo-containing, ionomers; in preparation of poly(anilineboronic acid))
IT Ionomers
(polyoxyalkylenes, fluorine- and sulfo-containing; in preparation of poly(anilineboronic acid))
IT Electrodes
Sensors
(potentiometric; potentiometric saccharide detection based on the pKa changes of poly(anilineboronic acid))
IT 50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis
97-30-3, α-Methyl-D-glucoside 1460-57-7,
trans-1,2-Cyclohexanediol 1792-81-0, cis-1,2-Cyclohexanediol
5057-98-7, cis-1,2-Cyclopentanediol 5057-99-8,
trans-1,2-Cyclopentanediol
(analyte; potentiometric saccharide detection based on the pKa

changes of poly(anilineboronic acid))
IT 7440-44-0, Carbon, analysis
(glassy, electrode; potentiometric saccharide detection based on the pKa changes of poly(anilineboronic acid) on glassy carbon electrode)
IT 16984-48-8, Fluoride, analysis
(in preparation of poly(anilineboronic acid))
IT 30418-59-8, 3-Aminophenylboronic acid
(in preparation of poly(anilineboronic acid))
IT 280563-63-5P, Poly(3-aminophenylboronic acid)
(potentiometric saccharide detection based on the pKa changes of poly(anilineboronic acid))
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L51 ANSWER 7 OF 8 HCA
ACCESSION NUMBER: 136:160592 HCA Full-text
TITLE: Sensors and sensing methods for detecting analytes based on changes in pKa of a sensing polymer
INVENTOR(S): Freund, Michael S.; Shoji, Eiichi
PATENT ASSIGNEE(S): California Institute of Technology, USA
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010731	A1	20020207	WO 2001-US24106	20010731

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 20020029979	A1	20020314	US 2001-919657		20010731 <--
US 6797152	B2	20040928			
PRIORITY APPLN. INFO.:			US 2000-222276P	P	20000731 <--
			US 2000-258486P	P	20001227 <--
			US 2001-261334P	P	20010112 <--
			US 2001-308723P	P	20010730 <--

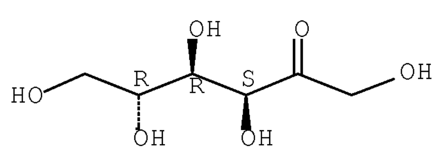
AB Sensor systems and sensing methods for detecting one or more analytes in a fluid. A sensor includes a polymer capable of undergoing a proton-coupled redox reaction. The polymer includes a plurality of reactive substituents capable of undergoing a reaction with an analyte. Upon exposure of the sensor to a fluid containing the analyte, a response is detected based on a change in the pKa of the polymer.

IT 57-48-7, D-Fructose, analysis
(sensors and sensing methods for detecting analytes based on changes in pKa of sensing polymer)

RN 57-48-7 HCA

CN D-Fructose (CA INDEX NAME)

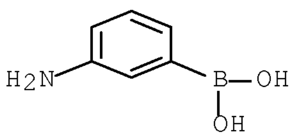
Absolute stereochemistry.



IT   280563-63-5, 3-Aminophenyl boronic acid homopolymer
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
RN   280563-63-5 HCA
CN   Boronic acid, B-(3-aminophenyl)-, homopolymer (CA INDEX NAME)

CM   1

CRN 30418-59-8
CMF C6 H8 B N O2



IT   7681-49-4, Sodium fluoride (NaF), analysis
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
RN   7681-49-4 HCA
CN   Sodium fluoride (NaF) (CA INDEX NAME)

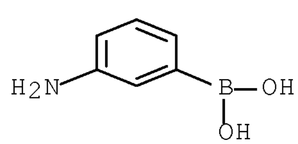
F—Na

IC   ICM G01N0027-26
     ICS G01N0021-47
CC   79-6 (Inorganic Analytical Chemistry)
IT   Polyanilines
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
IT   50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis
     97-30-3, α-Methyl-D-glucoside   16984-48-8, Fluoride, analysis
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
IT   25233-30-1, Polyaniline   25667-98-5, Poly
     o-phenylenediamine   25668-01-3, Poly o-aminophenol   75788-67-9,
     Polyphenothiazine   102679-09-4, Poly aminonaphthalene   113254-03-8
     280563-63-5, 3-Aminophenyl boronic acid homopolymer
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
IT   7681-49-4, Sodium fluoride (NaF), analysis
        (sensors and sensing methods for detecting analytes based on
        changes in pKa of sensing polymer)
RE
(1) Pringsheim; Analytica Chimica Acta 1997, V357, P247 HCA
(2) Taj; Synthetic Metals 1998, V97, P205 HCA

ACCESSION NUMBER: 131:145219 HCA Full-text
TITLE: A polyaniline with near-infrared optical response to saccharides
AUTHOR(S): Pringsheim, Erika; Terpetschnig, Ewald; Piletsky, Sergey A.; Wolfbeis, Otto S.
CORPORATE SOURCE: Inst. Analytical Chem., Chemo- Biosensors, Univ. Regensburg, Regensburg, D-93040, Germany
SOURCE: Advanced Materials (Weinheim, Germany) (1999), 11(10), 865-868
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A sugar-binding polymer film capable of continuous sensing was prepared by copolymn. of aniline and 3-aminophenylboronic acid and ammonium peroxodisulfate oxidation Its absorption spectrum between 500-800 nm undergoes large changes on addition of various saccharides (glucose, fructose, sorbitol, mannitol, saccharose, and glycerol) at neutral pH, changes which are dependent on the saccharide concentrate and are fully reversible. These films represent an interesting alternative to enzyme-based glucose sensors because of their ease of preparation, compatibility with light emitting devices and diode laser light sources, and their thermal and temporal stability.
IT 139289-90-0P, Aniline-3-aminophenylboronic acid copolymer
(in oxidized state; preparation and saccharide-sensing properties of aniline-aminophenylboronic acid copolymer optical sensor)
RN 139289-90-0 HCA
CN Boronic acid, B-(3-aminophenyl)-, polymer with benzenamine (CA INDEX NAME)

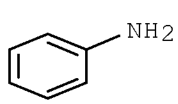
CM 1

CRN 30418-59-8
CMF C6 H8 B N O2



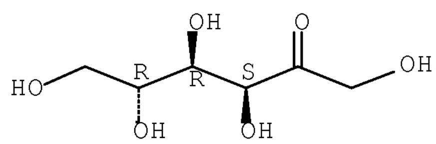
CM 2

CRN 62-53-3
CMF C6 H7 N



IT   57-48-7, Fructose, analysis
        (preparation and saccharide-sensing properties of
        aniline-aminophenylboronic acid copolymer optical sensor)
RN   57-48-7 HCA
CN   D-Fructose (CA INDEX NAME)

Absolute stereochemistry.



CC   37-5 (Plastics Manufacture and Processing)
ST   polyaniline sugar sensor prepn; aniline aminophenylboronic
     acid copolymn polyaniline prepn; saccharide detn
     polyaniline sensor; IR absorption polyaniline
IT   Polyanilines
        (preparation and saccharide-sensing properties of
        aniline-aminophenylboronic acid copolymer optical sensor)
IT   139289-90-0P, Aniline-3-aminophenylboronic acid copolymer
        (in oxidized state; preparation and saccharide-sensing properties of
        aniline-aminophenylboronic acid copolymer optical sensor)
IT   50-99-7, Glucose, analysis   56-81-5, Glycerol, analysis
     57-48-7, Fructose, analysis   57-50-1, Saccharose, analysis
     69-65-8, Mannitol
        (preparation and saccharide-sensing properties of
        aniline-aminophenylboronic acid copolymer optical sensor)
RE

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